UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,785	02/28/2002	John A. Scott	112056-0048	8989

24267 7590 11/03/2004

CESARI AND MCKENNA, LLP
88 BLACK FALCON AVENUE
BOSTON, MA 02210

EXAMINER	
DODDS, HAROLD E	

ART UNIT	PAPER NUMBER
2167	6

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/086,785	SCOTT, JOHN A.	
	Examiner	Art Unit	
	Harold E. Dodds, Jr.	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4,5*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The attempt to incorporate subject matter into this application by reference to "Patent Application by Philip J. Christopher" is improper because the U.S. Patent Application Numbers and the application dates have not been supplied.

Correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Madnick et al (U.S. Patent No. 6,282,537).

4. Madnick anticipates independent claim 1 by the following:

"...identifying, from a descriptor look up table, a series of actions to perform on elements..." at col. 4, lines 60-63 and col. 10, lines 7-12.

"...of the file access data structure..." at col. 12, lines 63-65.

"...and performing the identified series of actions on the elements..." at col. 4, lines 60-63 and col. 10, lines 7-12.

"...of the file access data structure..." at col. 12, lines 63-65.

5. Claims 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Bowman-Amuah (U.S. Patent No. 6,434,568).

6. Bowman-Amuth anticipates independent claim 16 by the following:

"...determining a type of the file access data structure..." at col. 112, lines 64-67 and col. 60, lines 1-3.

"...processing, in response to the file access data structure of being of a first type..." at col. 258, lines 20-22, col. 228, lines 5-6, col. 60, lines 1-3, and col. 112, lines 64-67.

"...the file access data structure along a first processing path..." at col. 60, lines 1-3, col. 258, lines 20-22, and col. 112, lines 64-67.

"...processing, in response to the file access data structure being of a second type..." at col. 258, lines 20-22, col. 228, lines 5-6, col. 60, lines 1-3, and col. 112, lines 64-67.

"...the file access data structure along a second processing path..." at col. 60, lines 1-3, col. 258, lines 20-22, and col. 112, lines 64-67.

7. As per claim 17, the "...first type further comprises a critical path data structure...," is taught by Bowman-Amuth at col. 109, lines 29-31 and col. 60, lines 1-3.

8. As per claim18, the "...first processing path...," is taught by Bowman-Amuth at col. 258, lines 20-22 and col. 112, lines 64-67

and the "...further comprises a set of specifically coded functions...," is taught by Bowman-Amuth at col. 102, lines 63-69.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2, 11, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (U.S. Patent No. 6,434,568) and Lee et al. (U.S. Patent No. 5,867,690).

11. Bowman-Amuah renders obvious independent claims 2 and 15 by the following:

"...determining if the file access data structure..." at col. 109, lines 29-31 and col. 60, lines 1-3.

"...is a critical path data structure..." at col. 105, lines 63-35 and col. 60, lines 1-3.

"...converting, in response to the file access data structure..." at col. 247, lines 5-8 and col. 60, lines 1-3.

"...being a critical path data structure..." at col. 105, lines 63-35 and col. 60, lines 1-3.

"...using a set of specific code functions..." at col. 102, lines 63-69.

"...converting, in response to the file access data structure..." at col. 247, lines 5-8 and col. 60, lines 1-3.

"...not being a critical path data structure..." at col. 105, lines 63-35 and col. 60, lines 1-3.

"...a header of the file access data structure..." at col. 75, lines 7-9 and col. 60, lines 1-3.

"...using a second set of specific code functions..." at col. 102, lines 102, lines 63-69.

"...of the file access data structure..." at col. 60, lines 1-3.

Bowman-Amuth does not teach the use of elements of endianesses and byte swapping.

12. However, Lee teaches the use of elements of endianesses and byte swapping as follows:

"...the elements from the first endianness to the second endianness..." at col. 5, lines 44-46.

"...from the first endianness to the second endianness..." at col. 5, lines 44-46.

",,,and calling a byte swapping engine to convert selected elements..." at col. 5, lines 63-67.

"...from the first byte order to the second byte order..." at col. 4, lines 49-54.

It would have been obvious to one of ordinary skill at the time of the invention to combine Lee with Bowman-Amuth to provide elements of endianesses and byte swapping in order to be able to convert the data structures between big-endian and little-endian formats to gain compatibility between computer systems using these data

formats and gain acceptance of the system. Bowman-Amuth and Lee teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the use of elements, the ordering of data, and the conversion of data. Bowman-Amuth provides data structures, headers, and functions and Lee provides elements of endianesses and byte swapping.

13. As per independent claim 11, the "...byte swapping engine...," is taught by Lee at col. 5, lines 63-67,

the "...byte swapping engine...," is taught by Lee at col. 5, lines 63-67,

the "...performing a defined operation...," is taught by Bowman-Amuth at col. 119, lines 24-26,

and the "...on each of a plurality of elements of a file access data structure...," is taught by Bowman-Amuth at col. 41, lines 65-67 and col. 60, lines 1-3.

14. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth and Lee as applied to claim 2 above, and further in view of Keele et al. (U.S. Patent No. 5,438,674).

As per claim 3, the "...file access data structure...," is taught by Bowman-Amuth at col. 60, lines 1-3,

the "...file access data structure...," is taught by Bowman-Amuth at col. 60, lines 1-3,

but the "...further comprises a direct access...," is not taught by either Bowman-Amuth or Lee.

However Keele teaches the use of direct access storage devices as follows:

"...The current IBM System 370 storage hierarchy consists of main memory, disk memory or Direct Access Storage Devices (DASD),

reel and cartridge magnetic tapes, and hardcopy such as paper and microfilm..." at col. 15, lines 6-9.

It would have been obvious to one of ordinary skill at the time of the invention to combine Keele with Bowman-Amuth and Lee to provide direct access to storage devices in order to have the data on these devises available at all times for on-line processing. Bowman-Amuth, Lee, and Keele teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the ordering of data, and the conversion of data and Bowman-Amuth and Keele teach the use of directories and the use of files. Bowman-Amuth provides data structures, headers, and functions, Lee provides elements of endianesses and byte swapping, and Keele provides direct access to storage devices.

15. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth and Lee as applied to claim 11 above, and further in view of McCarthy et al. (U.S. Patent No. 6,321,310).

As per claim 12, the "...file server...," is taught by Bowman-Amuth at col. 60, lines 4-5,

the "...each of the plurality of entries...," is taught by Bowman-Amuth at col. 259, lines 4-6,

the "...associated with a specific file access data structure...," is taught by Bowman-Amuth at col. 60, lines 1-3,

but the "...further comprises a descriptor look up table...,"

and the "...descriptor look up table having a plurality of entries...," are not taught by either Bowman-Amuth or Lee.

However, McCarthy teaches the use of descriptor tables as follows:

"...Memory Access Table (MAT) 65 will now be described with reference to FIG. 4. This is a memory descriptor table holding information relating to main memory locations involved in burst transactions..." at col. 15, lines 60-63.

It would have been obvious to one of ordinary skill at the time of the invention to combine McCarthy with Bowman-Amuth and Lee to provide descriptor tables in order to hold information relating to main memory locations to provide parameters for reformatting data in those locations. Bowman-Amuth, Lee, and McCarthy teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the use of elements, the ordering of data, and the conversion of data. Bowman-Amuth provides file access data structures, Lee provides byte swapping, and McCarthy provides descriptor tables.

16. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth. Lee, and McCarthy as applied to claim 11 above, and further in view of Favor (U.S. Patent No. 5,926,642).

As per claim 13, the "...each of the plurality of entries further comprises a plurality of elements...," is taught by Bowman-Amuth at col. 259, lines 4-6 and col. 41, lines 65-67,

the "...each of the elements...," is taught by Bowman-Amuth at col. 41, lines 65-67,

the "...having a size field...," is taught by McCarthy at col. 17, lines 7-12,

but the "...and an operation field...," is not taught by either Bowman-Amuth. Lee, or McCarthy.

However, Favor teaches the use of operation fields as follows:

"...FIG. 6A is a register operation (RegOp) field encoding graphic that illustrates various fields in the RegOp format..." at col. 35, lines 44-45.

It would have been obvious to one of ordinary skill at the time of the invention to combine Favor with Bowman-Amuth, Lee, and McCarthy to provide operation fields in order to provide information related to designating the operation for reformatting data and provide a quickly accessible means of controlling the conversion of data. Bowman-Amuth, Lee, McCarthy, and Favor teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the ordering of data, and the conversion of data and Bowman-Amuth. Bowman-Amuth provides file access data structures, Lee provides byte swapping, and McCarthy provides descriptor tables, and Favor provides operation fields.

17. As per claim 14, the "...defined operation...," is taught by Bowman-Amuth at col. 119, lines 24-26,

the "...is defined by the operation field...," is taught by Favor at col. 35, lines 44-45, and the "...of the entry associated with the file access data structure...," is taught by Bowman-Amuth at col. 259, lines 4-6 and col. 60, lines 1-3.

18. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (U.S. Patent No. 6,434,568), Lee et al. (U.S. Patent No. 5,867,690) and McCarthy et al. (U.S. Patent No. 6,321,310).

19. Bowman-Amuth renders obvious independent claim 4 by the following: "...storing the file access data structure to be converted..." at col. 49, lines 57-61, col. 60, lines 1-3, and col. 247, lines 5-8.

"...placing the file access data structure..." at col. 60, lines 1-3.

Bowman-Amuth does not teach the use of a byte swapping engine, descriptor tables, and input and output buffers.

20. However, Lee teaches the use of a byte swapping engine as follows:

"...a byte swapping engine..." at col. 5, lines 63-67.

"...byte swapping engine operative..." at col. 5, lines 63-67,

"...byte swapping engine..." at col. 5, lines 63-67.

It would have been obvious to one of ordinary skill at the time of the invention to combine Lee with Bowman-Amuth to provide byte swapping in order to be able to convert the data structures between big-endian and little-endian formats to gain compatibility between computer systems using these data formats and gain acceptance of the system. Bowman-Amuth and Lee teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the use of elements, the ordering of data, and the conversion of data. Bowman-Amuth provides file access data structures and Lee provides byte swapping.

Lee does not teach the use of descriptor tables and input and output buffers.

21. However, McCarthy teaches the use of descriptor tables and input and output buffers as follows:

"...input buffer..." at col. 5, lines 16-21.

"...input buffer..." at col. 5, lines 16-21.

"...interconnected with a descriptor table..." at col. 15, lines 60-63.

"...and an output buffer..." at col. 5, lines 16-21.

"...in the output buffer after conversion..." at col. 5, lines 16-21.

It would have been obvious to one of ordinary skill at the time of the invention to combine McCarthy with Bowman-Amuth and Lee to provide descriptor tables in order to hold information relating to main memory locations to provide parameters for reformatting data in those locations. Likewise, it would have been obvious to one of ordinary skill at the time of the invention to combine McCarthy with Bowman-Amuth and Lee to provide input and output buffers in order to provide for the continuous processing of data streams. Bowman-Amuth, Lee, and McCarthy teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the use of elements, the ordering of data, and the conversion of data. Bowman-Amuth provides file access data structures, Lee provides byte swapping, and McCarthy provides descriptor tables and input and output buffers.

22. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth, Lee, and McCarthy as applied to claim 4 above, and further in view of Favor (U.S. Patent No. 5,926,642).

As per claim 5, the "...descriptor table...," is taught by McCarthy at col. 15, lines 60-63,

the "...further comprises a set of entries describing various file access data structures...," is taught by Bowman-Amuth at col. 259, lines 4-6 and col. 60, lines 1-3,

the "...each entry further comprising a size field...," is taught by McCarthy at col. 17, lines 7-12,

but the "...and an operation field...," is not taught by either Bowman-Amuth, Lee, or McCarthy.

However, Favor teaches the use of operation fields as follows:

"...FIG. 6A is a register operation (RegOp) field encoding graphic that illustrates various fields in the RegOp format..." at col. 35, lines 44-45.

It would have been obvious to one of ordinary skill at the time of the invention to combine Favor with Bowman-Amuth, Lee, and McCarthy to provide operation fields in order to provide information related to designating the operation for reformatting data and provide a quickly accessible means of controlling the conversion of data. Bowman-Amuth, Lee, McCarthy, and Favor teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the ordering of data, and the conversion of data and Bowman-Amuth. Bowman-Amuth provides data structures, headers, and functions, Lee provides elements of endianesses and byte swapping, McCarthy provides descriptor tables and input and output buffers, and Favor provides operation fields.

23. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth, Lee, and McCarthy as applied to claim 4 above, and further in view of Keele.

As per claim 6, the "...file access data structure...," is taught by Bowman-Amuth at col. 60, lines 1-3,

the "...file access data structure...," is taught by Bowman-Amuth at col. 60, lines 1-3,

but the "...further comprises a direct access...," is not taught by either Bowman-Amuth, Lee, or McCarthy.

However Keele teaches the use of direct access storage devices as follows:

"...The current IBM System 370 storage hierarchy consists of main memory, disk memory or Direct Access Storage Devices (DASD), reel and cartridge magnetic tapes, and hardcopy such as paper and microfilm..." at col. 15, lines 6-9.

It would have been obvious to one of ordinary skill at the time of the invention to combine Keele with Bowman-Amuth, Lee, and McCarthy to provide direct access to storage devices in order to have the data on these devises available at all times for on-line processing. Bowman-Amuth, Lee, McCarthy, and Keele teach related systems. They teach the use of computers, the use of data structures, the use of bytes, the ordering of data, and the conversion of data and Bowman-Amuth. Bowman-Amuth provides data structures, headers, and functions, Lee provides elements of endianesses and byte swapping, McCarthy provides descriptor tables and input and output buffers, and Keele provides direct access to storage devices.

24. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (U.S. Patent No. 6,434,568) and McCarthy et al. (U.S. Patent No. 6,321,310).

Bowman-Amuth renders obvious independent claim 7 by the following:

"...performing an action on an element of the data structure..." at col. 280, lines 28-31, col. 41, lines 65-67, and col. 215, lines 12-15.

"...the action being defined..." at col. 119, lines 24-26.

Bowman-Amuth does not teach the use of descriptor tables and output buffers.

25. However McCarty teaches the use of descriptor tables and output buffers as follows:

"...reading an element entry from a descriptor table..." at col. 7, lines 8-10 and col. 15, lines 60-63.

"...in the element entry read from the descriptor table..." at col. 7, lines 8-10 and col. 15, lines 60-63.

"...and placing the element in an output buffer..." at col. 2, lines 46-55 and col. 5, lines 16-21.

It would have been obvious to one of ordinary skill at the time of the invention to combine McCarthy with Bowman-Amuth to provide descriptor tables in order to hold information relating to main memory locations to provide parameters for reformatting data in those locations. Likewise, it would have been obvious to one of ordinary skill at the time of the invention to combine McCarthy with Bowman-Amuth to provide output buffers in order to provide for the continuous processing of data streams. Bowman-Amuth and McCarthy teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the use of elements, the ordering of data, and the conversion of data. Bowman-Amuth provides performing actions on elements of data structures and McCarthy provides descriptor tables and output buffers.

26. As per claim 8, the "...step of performing an action on an element...," is taught by Bowman-Amuth at col. 280, lines 28-31 and col. 41, lines 65-67

and the "...further comprises the step of copying the element from an input buffer to the output buffer..." is taught by McCarthy at col. 2, lines 46-55 and col. 5, lines 16-21.

27. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth and McCarthy as applied to claim 7 above, and further in view of Lee.

As per claim 19, the "...step of performing an action on an element...," is taught by Bowman-Amuth at col. 280, lines 28-31 and col. 41, lines 65-67,

but the "...further comprises the step of byte swapping the element...," is not taught by either Bowman-Amuth or McCarthy.

However, Lee teaches the use of byte swapping as follows:

"...As the processor 510 reads data from the storage device 520 the data passes from the storage device 520 along the system data bus 550 to the byte swapping device 530. The byte swapping device 530 receives the data from the system data bus 550 and selectively byte swaps the data..." at col. 5, lines 63-67.

It would have been obvious to one of ordinary skill at the time of the invention to combine Lee with Bowman-Amuth and McCarthy to provide byte swapping in order to be able to convert the data structures between big-endian and little-endian formats to gain compatibility between computer systems using these data formats and gain acceptance of the system. Bowman-Amuth, McCarthy, and Lee teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the use of elements, the ordering of data, and the conversion of data. Bowman-Amuth provides performing actions on elements of data structures, McCarthy provides descriptor tables and output buffers, and Lee provides byte swapping.

28. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth and McCarthy as applied to claim 7 above, and further in view of Favor.

As per claim 10, the "...element entry of the descriptor table further comprises a field describing a size of the element...," is taught by McCarthy at col. 17, lines 2-12, but the "...and a field describing an action to be performed...," is not taught by either Bowman-Amuth or McCarthy.

However, Favor teaches the use of operation fields as follows:

"...FIG. 6A is a register operation (RegOp) field encoding graphic that illustrates various fields in the RegOp format..." at col. 35, lines 44-45.

It would have been obvious to one of ordinary skill at the time of the invention to combine Favor with Bowman-Amuth and McCarthy to provide operation fields in order to provide information related to designating the operation for reformatting data and provide a quickly accessible means of controlling the conversion of data. Bowman-Amuth, McCarthy, and Favor teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the ordering of data, and the conversion of data and Bowman-Amuth. Bowman-Amuth provides performing actions on elements of data structures, McCarthy provides descriptor tables and output buffers, and Favor provides operation fields.

29. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuth as applied to claim 16 above, and further in view of Lee.

As per claim 19, the "...second processing path...," is taught by Bowman-Amuth at col. 258, lines 20-22 and col. 112, lines 64-67,

but the "...further comprises a byte swapping engine...," is not taught by Bowman-Amuth.

However, Lee teaches the use of byte swapping as follows:

"...As the processor 510 reads data from the storage device 520 the data passes from the storage device 520 along the system data bus 550 to the byte swapping device 530. The byte swapping device 530 receives the data from the system data bus 550 and selectively byte swaps the data..." at col. 5, lines 63-67.

It would have been obvious to one of ordinary skill at the time of the invention to combine Lee with Bowman-Amuth to provide byte swapping in order to be able to convert the data structures between big-endian and little-endian formats to gain compatibility between computer systems using these data formats and gain acceptance of the system. Bowman-Amuth and Lee teach the use of related systems. They teach the use of computers, the use of data structures, the use of bytes, the use of elements, the ordering of data, and the conversion of data. Bowman-Amuth provides file access data structures and performing actions on elements of data structures and Lee provides byte swapping.

Conclusion

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold E. Dodds, Jr. whose telephone number is (571)-272-4110. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571)-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Harold E. Dodds, Jr.
Patent Examiner
October 30, 2004

GRETA ROBINSON
PRIMARY EXAMINER